Exhibit R-2, RDT&E Budget Item Justification: PB 2011 Office of Secretary Of Defense										DATE: February 2010	

APPROPRIATION/BUDGET ACTIVITY
0400: *Research, Development, Test & Evaluation, Defense-Wide*
BA 4: *Advanced Component Development & Prototypes (ACD&P)*

R-1 ITEM NOMENCLATURE
PE 0604670D8Z: *Human, Social and Culture Behavior (HSCB) Modeling Advanced Development*

COST ($ in Millions)	FY 2009 Actual	FY 2010 Estimate	FY 2011 Base Estimate	FY 2011 OCO Estimate	FY 2011 Total Estimate	FY 2012 Estimate	FY 2013 Estimate	FY 2014 Estimate	FY 2015 Estimate	Cost To Complete	Total Cost
Total Program Element	5.392	6.950	7.459	0.000	7.459	12.206	14.759	14.983	15.206	Continuing	Continuing
P670: *Human, Social and Culture Behavior (HSCB) Modeling Research and Engineering*	5.392	6.950	7.459	0.000	7.459	12.206	14.759	14.983	15.206	Continuing	Continuing

A. Mission Description and Budget Item Justification

This program focuses on maturing, hardening, and validating human, social, culture, and behavior modeling (HSCB) related software for integration into the architectures of "existing programs of record", or maturing software via open architectures to allow broad systems integration. The work provides a development to product transition pathway for socio-cultural models, tools, and visualization products. The work serves to certify that HSCB model-based technology can be transitioned into existing and developing systems in coordination with Program Executive Offices/Program Managers, joint users, and other transition customers. The program will port (integrate) relevant data and tools from a developed system to existing applications to provide essential forecasting capabilities for socio-cultural (human terrain) responses at the strategic, operational and tactical levels. It will mature and integrate technologies that provide training and mission rehearsal capabilities at the strategic to tactical level.

B. Program Change Summary ($ in Millions)

	FY 2009	FY 2010	FY 2011 Base	FY 2011 OCO	FY 2011 Total
Previous President's Budget	5.991	7.006	0.000	0.000	0.000
Current President's Budget	5.392	6.950	7.459	0.000	7.459
Total Adjustments	-0.599	-0.056	7.459	0.000	7.459
• Congressional General Reductions		0.000			
• Congressional Directed Reductions		0.000			
• Congressional Rescissions	0.000	0.000			
• Congressional Adds		0.000			
• Congressional Directed Transfers		0.000			
• Reprogrammings	0.000	0.000			
• SBIR/STTR Transfer	-0.110	0.000			
• Other Program Adjustments	-0.489	-0.056	7.459	0.000	7.459

Exhibit R-2A, RDT&E Project Justification: PB 2011 Office of Secretary Of Defense		DATE: February 2010
APPROPRIATION/BUDGET ACTIVITY 0400: *Research, Development, Test & Evaluation, Defense-Wide* BA 4: *Advanced Component Development & Prototypes (ACD&P)*	**R-1 ITEM NOMENCLATURE** PE 0604670D8Z: *Human, Social and Culture Behavior (HSCB) Modeling Advanced Development*	**PROJECT** P670: *Human, Social and Culture Behavior (HSCB) Modeling Research and Engineering*

COST ($ in Millions)	FY 2009 Actual	FY 2010 Estimate	FY 2011 Base Estimate	FY 2011 OCO Estimate	FY 2011 Total Estimate	FY 2012 Estimate	FY 2013 Estimate	FY 2014 Estimate	FY 2015 Estimate	Cost To Complete	Total Cost
P670: *Human, Social and Culture Behavior (HSCB) Modeling Research and Engineering*	5.392	6.950	7.459	0.000	7.459	12.206	14.759	14.983	15.206	Continuing	Continuing
Quantity of RDT&E Articles											

A. Mission Description and Budget Item Justification

This program focuses on maturing, hardening, and validating human, social, culture, and behavior modeling (HSCB) related software for integration into the architectures of "existing programs of record", or maturing software via open architectures to allow broad systems integration. The work provides a development to product transition pathway for socio-cultural models, tools, and visualization products. The work serves to certify that HSCB model-based technology can be transitioned into existing and developing systems in coordination with Program Executive Offices/Program Managers, joint users, and other transition customers. The program will port (integrate) relevant data and tools from a developed system to existing applications to provide essential forecasting capabilities for socio-cultural (human terrain) responses at the strategic, operational and tactical levels. It will mature and integrate technologies that provide training and mission rehearsal capabilities at the strategic to tactical level.

B. Accomplishments/Planned Program ($ in Millions)

	FY 2009	FY 2010	FY 2011 Base	FY 2011 OCO	FY 2011 Total
Data Collection Tool	1.640	2.821	2.966	0.000	2.966
Transition first generation data collection tool and decision support tools. *FY 2009 Accomplishments:* Matured and delivered first generation data collection tool and software to support tactical level collection and dissemination of socio-cultural data. Established the TTPs, hardware, and software necessary to support the development and transition of technologies to the Distributed Common Ground System-Army (DCGS-A). Developed a standards-based data model along with associated					

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Exhibit R-2A, **RDT&E Project Justification:** PB 2011 Office of Secretary Of Defense		**DATE:** February 2010
APPROPRIATION/BUDGET ACTIVITY 0400: *Research, Development, Test & Evaluation, Defense-Wide* BA 4: *Advanced Component Development & Prototypes (ACD&P)*	**R-1 ITEM NOMENCLATURE** PE 0604670D8Z: *Human, Social and Culture Behavior (HSCB) Modeling Advanced Development*	**PROJECT** P670: *Human, Social and Culture Behavior (HSCB) Modeling Research and Engineering*

B. Accomplishments/Planned Program ($ in Millions)

	FY 2009	FY 2010	FY 2011 Base	FY 2011 OCO	FY 2011 Total
cultural map and tabular data sets, assessed application modeling activities utilizing relevant operational scenarios and realistic data to highlight technology gaps and transition possibilities. Developed a plan to insert a technology and associated TTP into COCOM work flow. *FY 2010 Plans:* Develop a second generation tool to support tactical to operational collection and dissemination of socio-cultural data and decision support. Leverage lessons learned from Human Terrain Teams and others to focus the effort, to include making data collection endogenous to forces. Develop a tool that is specifically designed to support unit transitions Relief in Place/Transfer of Authority (RIP/TOA) Operations by storing data in a way that facilitates knowledge transfer. Insert a data collection tool and technology into COCOM system. *FY 2011 Base Plans:* Research and develop automated data management, translation and extraction tools to service HSCB models to support emergent user requirements. Intent is to facilitate the integration of new data sets into appropriate data stores; and enable users to discover, extract, and exploit data in forms appropriate for the models they need to use in support of HSCB problem domains and applications.					
Visualization Software Mature and develop software that will visually and digitally represent cultural factors within existing C2 systems. *FY 2009 Accomplishments:* Matured and delivered software that supports the visualization of cultural information within existing operational-tactical level C2 and decision aiding systems. The outputs from ongoing visualization and human, social, culture, and behavior modeling projects need risk reduction support for integration into existing C2 systems (e.g. DCGS-A; Intelligence analyst systems). The work delivered the capability for	1.676	1.827	1.972	0.000	1.972

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B. Accomplishments/Planned Program ($ in Millions)

	FY 2009	FY 2010	FY 2011 Base	FY 2011 OCO	FY 2011 Total
existing decision aids/C2 systems to visually or digitally depict cultural information to support manual or automated analysis. Demonstrated alternative modeling approaches. Developed a visualization capability to support intelligence and socio-cultural data understanding. *FY 2010 Plans:* Develop a visualization capability targeted to user requirements and programs to support specific transitions. Include capabilities that support the visualization of multi-media data, message diffusion across cultural groups, and message resonance. Develop a visualization capability that allows model outputs to be translated to human decision space and allows the rank ordering and understanding of DIME actions. Implement and test visualization capabilities in HSCB development, integration, and test lab as part of HSCB testing and assessment process. *FY 2011 Base Plans:* Develop a non-proprietary visualization framework that permits interaction, exploration, and visualization of key elements of HSCB modeling information based on both user and task requirements. Assess framework capability to support development and integration of third-party visualization components and support models working at multiple operational (and data) levels (e.g., strategic, tactical, sub-tactical). Continue technical assessment process and focused technical testing.					
Modeling Capabilities Mature and deliver socio-cultural modeling capabilities within existing DoD systems. Conduct validation testing of HSCB model based applications. *FY 2009 Accomplishments:* Building upon operational experiments with USPACOM and USEUCOM, developed a prototype capability designed to support COCOM determinations of regional stability, as well as prototype capability focused on operational planning and intelligence analysis. Enhanced COMPOEX framework	1.676	1.827	1.971	0.000	1.971

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B. Accomplishments/Planned Program ($ in Millions)

	FY 2009	FY 2010	FY 2011 Base	FY 2011 OCO	FY 2011 Total
capability through integration of additional models and assessed transition path to DCGS-A. Initiated development of a target audience analysis and influence analysis capability to support USSOCOM and DoD strategic communication requirements. Developed a TTP for use by AFRICOM to support socio-cultural data understanding, collection, processing, and modeling. *FY 2010 Plans:* Develop a modeling capability targeted to influence PSYOP operations to support specific transitions including capability focused on operational planning and intelligence analysis. Insert capabilities that support target audience analysis, message diffusion and message resonance transition to USSOCOM programs of record. Develop a modeling and analysis capability that allows model outputs to be translated to human decision space and allows the rank ordering and understanding of human actions. Develop a modeling capability that supports DCGS-specific socio-cultural analysis and integrate the capability into the DCGS-A Software Integration Laboratory (SIL). Develop a modeling capability to support intelligence, economic, and socio-cultural analysis; then insert into broader training model and tactical wargae suite. Implement a technology integration strategy using awards, FFRDCs, and government laboratories. Implement and test modeling capabilities in HSCB development, integration, and test lab as part of HSCB testing and assessment process. *FY 2011 Base Plans:* Determine COCOM and deployed user needs and develop near term technologies to address these needs. Support transition to DCGS-A, Vision, Product Manager Constructive Simulation, USSOCOM, and other programs. Fund integrating contractor and US Army Geospatial Center to integrate and test HSCB technologies. Conduct the risk reduction activities necessary to ensure that HSCB technologies are validated, accurate, and address user/program of record requirements.					
Risk Reduction	0.400	0.475	0.550	0.000	0.550

Exhibit R-2A, RDT&E Project Justification: PB 2011 Office of Secretary Of Defense		DATE: February 2010
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B. Accomplishments/Planned Program ($ in Millions)

	FY 2009	FY 2010	FY 2011 Base	FY 2011 OCO	FY 2011 Total
Conduct the risk reduction activities necessary to ensure that HSCB technologies are validated, accurate, and address user/program of record requirements. *FY 2009 Accomplishments:* Developed a comprehensive technical assessment strategy tuned to the needs of the HSCB program and the maturity of the performer. Conducted over 50 discrete technical assessments of performers in various venues. Conducted scenario driven technical assessments and an integrated assessment demonstration that tied technologies to central modeling orchestration engine and database. *FY 2010 Plans:* Increase technical engagement with awardees to ensure that developing technologies on track to meet user needs and are technically and theoretically validated. Increase engagement with key government customers to ensure ready venue for empirical validation and user assessment. Develop technology and TTP to accommodate loose integration of HSCB technologies in technical assessment experiments. *FY 2011 Base Plans:* Conduct transition focused risk reduction activities designed to ensure that technologies targeted to POR requirements are brought through a comprehensive systems engineering and technical/theoretical assessment process. Conduct the engineering activities necessary to target technology to direct POR requirements.					
Accomplishments/Planned Programs Subtotals	5.392	6.950	7.459	0.000	7.459

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Exhibit R-2A, RDT&E Project Justification: PB 2011 Office of Secretary Of Defense		DATE: February 2010
APPROPRIATION/BUDGET ACTIVITY 0400: *Research, Development, Test & Evaluation, Defense-Wide* BA 4: *Advanced Component Development & Prototypes (ACD&P)*	**R-1 ITEM NOMENCLATURE** PE 0604670D8Z: *Human, Social and Culture Behavior (HSCB) Modeling Advanced Development*	**PROJECT** P670: *Human, Social and Culture Behavior (HSCB) Modeling Research and Engineering*

C. Other Program Funding Summary ($ in Millions)

Line Item	FY 2009	FY 2010	FY 2011 Base	FY 2011 OCO	FY 2011 Total	FY 2012	FY 2013	FY 2014	FY 2015	Cost To Complete	Total Cost
• PE 0602670D8Z BA 2: *HSCB Applied Research*	8.063	7.882	9.499		9.499	15.843	17.991	18.322	18.662	Continuing	Continuing
• PE 0603670D8Z BA 3: *HSCB Advanced Development*	8.443	10.395	11.510		11.510	19.187	21.765	22.119	22.513	Continuing	Continuing

D. Acquisition Strategy

The program will produce software prototypes configured for use in programs such as the Distributed Common Ground System (DCGS). The program will be executed by a Broad Agency Announcement (BAA) and a targeted request for proposals (RFP) process. The BAA and RFPs will be issued in the first quarter of FY10. Proposals will be solicited from all DoD organizations, other federal agencies, and the commercial sector. Proposals will be competed using review panels.

E. Performance Metrics

N/A

Exhibit R-3, RDT&E Project Cost Analysis: PB 2011 Office of Secretary Of Defense		DATE: February 2010

APPROPRIATION/BUDGET ACTIVITY 0400: *Research, Development, Test & Evaluation, Defense-Wide* BA 4: *Advanced Component Development & Prototypes (ACD&P)*	R-1 ITEM NOMENCLATURE PE 0604670D8Z: *Human, Social and Culture Behavior (HSCB) Modeling Advanced Development*	PROJECT P670: *Human, Social and Culture Behavior (HSCB) Modeling Research and Engineering*

Product Development ($ in Millions)

Cost Category Item	Contract Method & Type	Performing Activity & Location	Total Prior Years Cost	FY 2010		FY 2011 Base		FY 2011 OCO		FY 2011 Total	Cost To Complete	Total Cost	Target Value of Contract
				Cost	Award Date	Cost	Award Date	Cost	Award Date	Cost			
Data Modeling, Experimentation, & Cultural Webmapping	MIPR	Army Engineer Research & Development Center Alexandria, Virginia	1.565	0.000		0.000		0.000		0.000	Continuing	Continuing	Continuing
PMESII Modeling Framework (HPMF) Testbed	MIPR	Army Communications-Electronics Research, Development, and Engineering Center Ft. Monmouth, New Jersey	1.500	0.000		0.000		0.000		0.000	Continuing	Continuing	Continuing
Subtotal			3.065	0.000		0.000		0.000		0.000			

Remarks

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Exhibit R-3, RDT&E Project Cost Analysis: PB 2011 Office of Secretary Of Defense		DATE: February 2010
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Support ($ in Millions)

Cost Category Item	Contract Method & Type	Performing Activity & Location	Total Prior Years Cost	FY 2010		FY 2011 Base		FY 2011 OCO		FY 2011 Total	Cost To Complete	Total Cost	Target Value of Contract
				Cost	Award Date	Cost	Award Date	Cost	Award Date	Cost			
Multiple Performers	MIPR	Multiple Multiple	0.000	6.950	Jan 2010	7.459	Jan 2011	0.000		7.459	Continuing	Continuing	Continuing
Subtotal			0.000	6.950		7.459		0.000		7.459			

Remarks
Technical Services, Research Studies and Analyses, etc - Multiple Performers

Management Services ($ in Millions)

Cost Category Item	Contract Method & Type	Performing Activity & Location	Total Prior Years Cost	FY 2010		FY 2011 Base		FY 2011 OCO		FY 2011 Total	Cost To Complete	Total Cost	Target Value of Contract
				Cost	Award Date	Cost	Award Date	Cost	Award Date	Cost			
Program Management	MIPR	MITRE McLean, Virginia	1.006	0.000	Jan 2010	0.000	Jan 2011	0.000		0.000	Continuing	Continuing	Continuing
Subtotal			1.006	0.000		0.000		0.000		0.000			

Remarks

	Total Prior Years Cost	FY 2010	FY 2011 Base	FY 2011 OCO	FY 2011 Total	Cost To Complete	Total Cost	Target Value of Contract
Project Cost Totals	4.071	6.950	7.459	0.000	7.459			

Exhibit R-3, **RDT&E Project Cost Analysis:** PB 2011 Office of Secretary Of Defense | **DATE:** February 2010

| APPROPRIATION/BUDGET ACTIVITY
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P670: *Human, Social and Culture Behavior (HSCB) Modeling Research and Engineering* |

	Total Prior Years Cost	FY 2010	FY 2011 Base	FY 2011 OCO	FY 2011 Total	Cost To Complete	Total Cost	Target Value of Contract

Remarks

Office of Secretary Of Defense

Exhibit R-4, RDT&E Schedule Profile: PB 2011 Office of Secretary Of Defense		DATE: February 2010
APPROPRIATION/BUDGET ACTIVITY 0400: *Research, Development, Test & Evaluation, Defense-Wide* BA 4: *Advanced Component Development & Prototypes (ACD&P)*	**R-1 ITEM NOMENCLATURE** PE 0604670D8Z: *Human, Social and Culture Behavior (HSCB) Modeling Advanced Development*	**PROJECT** P670: *Human, Social and Culture Behavior (HSCB) Modeling Research and Engineering*

	FY 2009				FY 2010				FY 2011				FY 2012				FY 2013				FY 2014				FY 2015			
	1	2	3	4	1	2	3	4	1	2	3	4	1	2	3	4	1	2	3	4	1	2	3	4	1	2	3	4
Software Tool Developed	■	■																										
FY11 and FY12 Projects Developed and Transitioned									■	■	■	■	■	■	■	■	■											
Spiral 2 Delivery															■													
FY09 and FY10 Projects Developed and Transitioned		■	■	■	■	■	■	■																				
Spiral 1 Delivery								■																				
FY09 Projects Developed and Transitioned		■	■	■	■	■	■	■																				
FY09 Projects Funded		■																										
FY09 Projects Identified	■																											
SOCPAC Software Tool Transitioned		■																										
Spiral 3 Delivery																				■								

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Exhibit R-4A, RDT&E Schedule Details: PB 2011 Office of Secretary Of Defense		DATE: February 2010
APPROPRIATION/BUDGET ACTIVITY 0400: *Research, Development, Test & Evaluation, Defense-Wide* BA 4: *Advanced Component Development & Prototypes (ACD&P)*	**R-1 ITEM NOMENCLATURE** PE 0604670D8Z: *Human, Social and Culture Behavior (HSCB) Modeling Advanced Development*	**PROJECT** P670: *Human, Social and Culture Behavior (HSCB) Modeling Research and Engineering*

Schedule Details

Event	Start		End	
	Quarter	Year	Quarter	Year
Software Tool Developed	1	2009	2	2009
FY11 and FY12 Projects Developed and Transitioned	4	2011	4	2013
Spiral 2 Delivery	3	2012	3	2012
FY09 and FY10 Projects Developed and Transitioned	2	2009	4	2010
Spiral 1 Delivery	4	2010	4	2010
FY09 Projects Developed and Transitioned	2	2009	4	2010
FY09 Projects Funded	2	2009	2	2009
FY09 Projects Identified	1	2009	1	2009
SOCPAC Software Tool Transitioned	2	2009	2	2009
Spiral 3 Delivery	4	2013	4	2013